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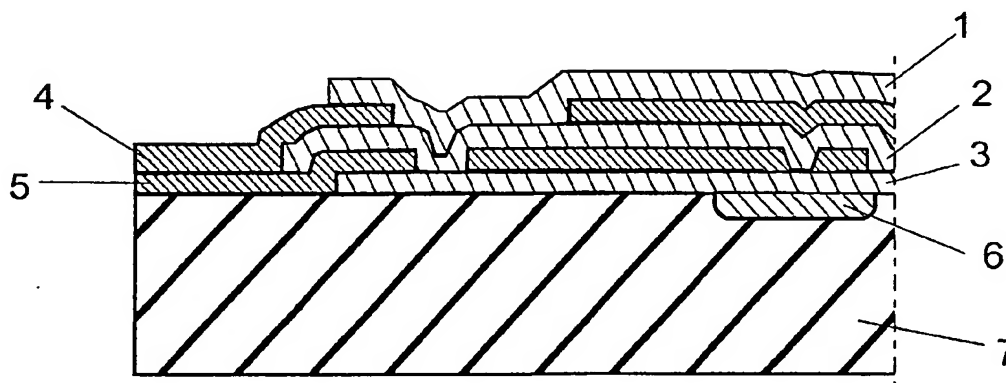
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(54) Title: INTEGRATED CIRCUIT HAVING AN ENERGY-ABSORBING STRUCTURE



(57) Abstract: An integrated circuit whose component body comprises a substrate (7), circuit elements, interconnection elements, a passivation layer (1) and a fringe segment (4, 5) of a ductile material, wherein the base surface of the component body is formed essentially by the substrate (7), the cover surface of the component body is formed essentially by the passivation layer (1) and the fringe segment (4, 5), and the side walls of the component body are formed by the substrate and the fringe segment (4, 5).



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# INTERNATIONAL SEARCH REPORT

In national Application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H01L23/58

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 184 (E-614), 28 May 1988 (1988-05-28) & JP 62 287645 A (NEC CORP), 14 December 1987 (1987-12-14) abstract	1-7
A	EP 0 425 147 A (AMERICAN TELEPHONE & TELEGRAPH) 2 May 1991 (1991-05-02) column 2, line 9 -column 3, line 20; figures 1-5	7
X	PATENT ABSTRACTS OF JAPAN vol. 018, no. 359 (E-1574), 6 July 1994 (1994-07-06) & JP 06 097165 A (FUJITSU LTD), 8 April 1994 (1994-04-08)	1,2,4-6
A	abstract	3,7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 856 887 A (SGS THOMSON MICROELECTRONICS) 5 August 1998 (1998-08-05)	1,2,4-6
A	column 13, line 29 -column 16, line 43; figure 6	3,7
X	EP 1 020 907 A (ST MICROELECTRONICS SRL) 19 July 2000 (2000-07-19)	1,2,5,6
A	paragraph '0018! - paragraph '0025!; figures 6-10,12	3,4,7
A	US 4 939 032 A (PETIT JOCELYN I ET AL) 3 July 1990 (1990-07-03)	3
	column 1, line 41 -column 5, line 30	
A	DE 195 30 878 A (OPTOSYS GMBH BERLIN) 13 February 1997 (1997-02-13)	
	the whole document	

# INTERNATIONAL SEARCH REPORT

In **nal Application No**  
**PCT/IB 02/02011**

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 62287645	A	14-12-1987	NONE	
EP 0425147	A	02-05-1991	US 5084415 A EP 0425147 A2 JP 3151668 A	28-01-1992 02-05-1991 27-06-1991
JP 06097165	A	08-04-1994	NONE	
EP 0856887	A	05-08-1998	EP 0856887 A1 JP 10284481 A US 5969408 A US 6022762 A	05-08-1998 23-10-1998 19-10-1999 08-02-2000
EP 1020907	A	19-07-2000	EP 1020907 A1 JP 2000208721 A US 6462400 B1	19-07-2000 28-07-2000 08-10-2002
US 4939032	A	03-07-1990	NONE	
DE 19530878	A	13-02-1997	DE 19530878 A1	13-02-1997